41. (New) The choke coil as defined in claim 1,

wherein the inside terminal is led outside the closing magnetic core through at least one of the notch and the opening provided in the second common magnetic yoke; and

wherein a thickness of the first common magnetic yoke is 60-90% that of a thickness of the second common magnetic yoke.

REMARKS

The Examiner has raised objections to the drawings, Figs. 5, 16, 22, 23, 31, 35, 41, 45, and 47-51. Applicants have corrected the drawings in response to the Examiner's comments, and a proposed drawing correction with changes indicated in red is enclosed. Formal drawings incorporating the proposed changes will be filed upon receipt of the approval of the Examiner and the allowance of the claims in this case.

The Examiner would not enter the applicant's prior amendment to page 8 of the specification. In response to the Examiner's comments, applicants have corrected and rewritten the amendment to page 8 of the specification, and added new Fig. 3B. Applicants submit that Fig. 3B does not contain any new matter, because its subject matter is disclosed in the original application. (See page 8, third full paragraph, and claim 10 of the original application).

Claims 1, 3, 4, 5, 7, 13, 17-20, 29 and 31 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. According to the Examiner, in claim 1 the location of the notch of the common magnetic yoke is not clear. In response to the Examiner's comments applicants have amended claim 1, amended pages 4 and 12 of the specification, renumbered Fig. 32 as Fig. 32A, and added new Fig. 32B. Applicants submit that Fig. 32B does not contain any new matter, because its subject matter is disclosed in the original application. (See page 15, lines 26-28, and claim 1 of the original application).

In accordance with the present invention, the inside terminal 22 may be led outside of the closing magnetic core 34 utilizing any of the following four configurations:

(1) a notch 38 in the first common magnetic yoke 37, of the E-shaped magnetic core 39, see Fig. 1;

(2) a notch 38 in the second common magnetic yoke 37 of the I-shaped magnetic core 40, see Fig. 32A;

(3) an opening 56 in the first common magnetic yoke 37, of the E-shaped magnetic core 39, see Fig. 29; or

(4) an opening 56 in the second common magnetic yoke 37 of the I-shaped magnetic core 40, see Fig. 32B.

Applicants have canceled claim 10 and added new claims 40 and 41, which are directed to the subject matter of canceled claim 10. Regarding claim canceled 10, it is the Examiner's position that the limitation of the "thickness of said second magnetic core is 65-90% that of a thickness of said common magnetic yoke..." is not supported by the specification. As set forth above, applicants have amended page 8 of the specification and added new Fig. 3B to clarify and thus support the claimed limitation.

Regarding claim 20, according to the Examiner, the term "a thickness deviation" is not clear. Applicants submit that a "thickness deviation" is described in the specification and the drawings, which state that the "cylinder 25 of the terminal base 24 has a thickness deviation." (See page 6, lines 9-11 and the cylinder 25 as shown on Figs. 1, 2, 4, 10, 11, 12, 15, 24, 25, 29, 32, 33, 36, 37, and 38). However, to promote clarity, applicants have amended claim 20 and page 6 of the specification to state that "a thickness of a wall of said cylinder of the terminal base varies from a minimum thickness to a maximum thickness" instead of a "thickness deviation."

Claims 1, 3, 4, 5, 7, 10, 13, 17-20, 29 and 31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the applicants' admitted prior art, as shown in Fig. 47. According to the Examiner, the rejection is best understood in view of the previous indefiniteness rejection under 35 U.S.C. § 112, and thus all of the elements of claim 1 are shown in Fig. 47. Applicants respectfully request reconsideration of the rejection.

The Examiner is interpreting claim 1 by negating the novel manner in which the inside terminal is led outside of the closing magnetic core, namely, <u>through</u> a notch 38 or a through hole 56 provided in the first common magnetic yoke 37 or the second common magnetic yoke 37. The Examiner states that the prior art shows a terminal 5 which is led outside of the closing magnetic core via an opening which is <u>between</u> the first and second magnetic core. (See page 5, line 8 of

the 05/08/01 Office Action). The prior art does not lead the inside terminal out outside of the closing magnetic core through a notch or a through hole in the common magnetic yoke 37, so this essential claimed element is not shown in the admitted prior art. Thus, the rejection of claim 1 under 35 U.S.C. § 102(b) is improper and should be withdrawn.

Claims 3, 4, 5, 7, 10, 13, 17-20, 29 and 31 depend, either directly or indirectly, from claim 1. Accordingly, these dependent claims are in condition for allowance for the same reasons explained above with respect to claim 1.

Claims 17-20 stand rejected under 35 U.S.C. 103(a) as being obvious over applicant's admitted prior art as shown in Fig. 47 in view of Mitsui et al. According to the Examiner the admitted prior art discloses all of the elements of the claimed invention except for the insulating layer cooperating with the common magnetic yoke of the closing magnetic core. Applicants respectfully traverse the rejection.

Mitsui et al. fails to overcome the deficiencies of the admitted prior art which are set forth above. Thus, neither the admitted prior art nor Mitsui et al. disclose an essential claimed element. The Examiner has therefore failed to establish a prima facie case of obviousness under 35 U.S.C. § 103(a).

All of the claims in this case are believed to be in condition for allowance, notice of which is respectfully urged. The Examiner may contact the undersigned by telephone at 703-904-4332 should any issue remain outstanding after entry of this amendment.

The Commissioner is authorized to charge any deficiency in fees or any additional fees required to maintain the pendency of this application to Deposit Account No. 18-2056.

Respectfully submitted,

Date: 08-07-01

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A marked-up version of rewritten specification paragraphs pursuant to 37 C.F.R. § 1.121(b)(1)(iii) is provided as follows:

IN THE SPECIFICATION:

On page 3, delete the third full paragraph and insert the following replacement paragraph:

Fig. [3] 3A is a perspective view of a completed product shown in Fig. 2.

On page 3, insert the following new paragraph after the third full paragraph:

Fig. 3B is a side view of the closing magnetic core of the choke coil according to the present invention.

On page 4, delete the fourteenth full paragraph and insert the following replacement paragraph:

Fig. [32] 32A is an exploded perspective view of the choke coil utilized in the fourth exemplary embodiment according to the present invention, and Fig. 32B is an exploded perspective view of another configuration of the choke coil utilized in the fourth embodiment.

On page 4, delete the fifteenth full paragraph and insert the following replacement paragraph:

Fig. 33 is an exploded perspective view of the assembled elements illustrated in Fig. [32] 32A including the coreless coil, terminal base, I-shape magnetic core and the insulating sheet.

On page 6, delete the second full paragraph and insert the following replacement paragraph:

The thickness of the wall of the cylinder 25 of the terminal base 24 varies from a minimum thickness to a maximum thickness. At the point of maximum thickness, the wall of the cylinder 25 [The cylinder 25 of the terminal base 24 has a thickness deviation at a part, i.e., this part is thicker than other part, corresponding to the terminal 22 of the coreless coil 20, and] has a vertical

groove 28 which guides the terminal 22 of the coreless coil 20. [engaged with the corresponding thicker part.] A terminal hole 29 through which the terminal 22 extends is punched on the base plate 26 at the lower end of the vertical groove 28 and on the triangular protrusion 27. Another terminal hole 30 is punched on the base plate 26 to which the terminal 23 coupled with the outer end corresponds. Beneath the bottom face of the triangular protrusion 27, a terminal groove 31 connected to the terminal hole 29 is provided. Also beneath the base plate, a terminal groove 32 connected to the terminal hole 30 is provided. After assembling the coreless coil 20 with the terminal base 24, the protruded terminals 22 and 23 are bent, and then fit into the terminal grooves 31 and 32 so that the terminals 22 and 23 can be led out to the sides from the triangular protrusion 27 in the terminal base 24 and the corresponding end face of the base plate 26. In other words, when this type of terminal base 24 is used, the terminals 22 and 23 are led out to the opposite directions independently, i.e., led out at an angle of 180° difference with each other, and whereby the choke coil is suitably constructed for surface mounting.

On page 8, delete the third full paragraph and insert the following replacement paragraph:

In accordance with a preferred embodiment as shown in Fig. 3B, when [When] the notch 38 or a through hole 56 is provided on a first, i.e. top or bottom, [side of the] common magnetic yoke 37 and not provided on a second [side of the] common magnetic yoke 37, a thickness of the second common magnetic yoke 37 [side] can be 65-90% that of a thickness "t" of the first [side] common magnetic yoke 37 without affecting the characteristics of the choke coil. As a result, a weight of the ferrite core can be reduced, and a height "h" of the choke coil can be lowered.

On page 12 delete the second full paragraph and insert the following replacement paragraph:

The fourth exemplary embodiment is described hereinafter by referring to Figs. [32-35] 32A and 33-35, and another configuration of the fourth embodiment is shown in Fig. 32B. The basic structure is same as that of the second exemplary embodiment, thus different points only are described here. Regarding the terminal base 24, the support protrusions 49 disposed on each

corner of the base plate 26 do not have a tapered notch 51 which could position the insulating sheet 33, and only a taper 50 is provided instead. The taper 50 guides the coreless coil 20 when the coreless coil 20 is assembled. The notch 38 is provided on the common magnetic yoke 37 of the I-shape magnetic core 40 of the closing magnetic core 34. The notch 43 is provided on an edge of the E-shape magnetic core 39, and the cavity portion 44 is provided inside of the E-shape magnetic core 39. The insulating sheet 33 does not have the flap 52 for positioning, but has a hole 62 corresponding to the center magnetic leg 35 instead. In the choke coil illustrated in Fig. 32B, the through hole 56 is provided in the common magnetic yoke 37 of the I-shape magnetic core 40 of the closing magnetic core 34, and the inner terminal 22 exits the I-shape magnetic core via the through hole 56.

A marked-up version of rewritten amended claims 1 and 20 pursuant to 37 C.F.R. § 1.121(c)(1)(ii) is provided as follows:

IN THE CLAIMS:

1. (Amended twice) A choke coil comprising:

a closing magnetic core including a first magnetic core comprising a center magnetic leg, an outer magnetic leg, and a first common magnetic yoke, and a second magnetic core comprising a second common magnetic yoke in contact with said first magnetic core;

a coreless coil including a plate-type wire comprising at least one of a flat type wire and a foil type wire, wherein said coreless coil is disposed around the center magnetic leg and separated therefrom by an insulating layer; and

inside and outside terminals respectively coupled to inside and outside ends of the plate-type wire of the coreless coil,

wherein said inside terminal is led outside said closing magnetic core through at least one of: [a notch and an opening provided in at least one of said common magnetic yoke, of said first magnetic core, and said second magnetic core]

a notch in the first common magnetic yoke;

an opening in the first common magnetic yoke;

a notch in the second common magnetic yoke; and

an opening in the second common magnetic yoke.

20. (Amended twice) The choke coil as defined in Claim 19, wherein a thickness of a wall of said cylinder of the terminal base [includes a thickness deviation,] varies from a minimum thickness to a maximum thickness, and wherein a guiding portion is provided at [a thicker part of] the point of maximum thickness of the wall of said cylinder [that] and the guiding portion engages with the inner terminal of the coreless coil.